Applicant: Y. Kubota, et al. U.S.S.N.: 09/851,885 SUPPLEMENTAL AMENDMENT

Page 3 of 43

## Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

## Listing of Claims:

1. (PREVIOUSLY PRESENTED) An image display device, comprising:

a pixel array constituted by a plurality of pixels for displaying an image;

a data signal line drive circuit for supplying a video signal to the pixel array;

a scan signal line drive circuit for controlling writing of the video signal to the plurality of pixels;

a timing circuit for supplying a timing signal to the data signal line drive circuit and the scan signal line drive circuit; and

a video signal processing circuit for supplying the video signal to the data signal line drive circuit.

wherein:

a part or entirety of either or both of the data signal line drive circuit and the scan signal line drive circuit is provided in plurality for one data signal line so as to realize mutually different display configurations.

2. (ORIGINAL) The image display device as defined in claim 1,

wherein:

only one of the parts and entireties of the drive circuit(s) operates at any given time.



SUPPLEMENTAL AMENDMENT

Page 4 of 43

3. (ORIGINAL) The image display device as defined in claim 1,

wherein:

the same part(s) and entirety(ics) of the drive circuit(s) is(are) driven throughout one or more frame periods.

4. (ORIGINAL) The image display device as defined in claim 1,

wherein:

two or more of the parts and entireties of the drive circuit(s) are switchably driven in one frame period.

5. (ORIGINAL) The image display device as defined in claim 1,

wherein:

at least two of the parts and entireties of the drive circuit(s) write image data in respective areas on a screen.

6. (ORIGINAL) The image display device as defined in claim 1,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and at least two of the parts and entireties of the data signal line drive circuit write image data in

one partial or whole area on a screen in one frame period.

SUPPLEMENTAL AMENDMENT

Page 5 of 43

7. (ORIGINAL) The image display device as defined in claim 6,

wherein:

the at least two of the parts and entireties of the data signal line drive circuit operate simultaneously.

8. (ORIGINAL) The image display device as defined in claim 6,

wherein:

at least one of the parts and entireties of the data signal line drive circuit writes image data overlapping an image written by another part or entirety of the data signal line drive circuit in one frame period.

9. (ORIGINAL) The image display device as defined in claim 8,

wherein:

at least one of the parts and entireties of the data signal line drive circuit writes an image overlapping another image throughout one or more entire horizontal scan periods.

10. (ORIGINAL) The image display device as defined in claim 8,

wherein:

at least one of the parts and entireties of the data signal line drive circuit writes an image overlapping another image only in a part of one or more entire horizontal scan periods.



SUPPLEMENTAL AMENDMENT

Page 6 of 43

11. (ORIGINAL) The image display device as defined in claim 1,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and at least one of the parts and entiretics of the data signal line drive circuit writes image data in a blanking period of each horizontal scan period.

12. (ORIGINAL) The image display device as defined in claim 1,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and at least one of the parts and entireties of the data signal line drive circuit writes image data with a predetermined delay from another part or entirety of the data signal line drive circuit.

13. (ORIGINAL) The image display device as defined in claim 1,

wherein:

the parts and entireties of the drive circuit(s) are located opposing one another across the pixel array.

14. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the parts and entireties of the drive circuit(s) are located on one side of the pixel array.

Applicant: Y. Kubota, et al. U.S.S.N.: 09/851,885 SUPPLEMENTAL AMENDMENT Page 7 of 43

15. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the parts and entireties of the drive circuit(s) share a common circuit.

16. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

an externally inputted signal controls which of the parts and entireties of the drive circuit(s) will be driven.

17. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

one of the mutually different display configurations is selected according to a kind of input display data.

18. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

one of the mutually different display configurations is selected according to an environmental condition.

SUPPLEMENTAL AMENDMENT

Page 8 of 43

19. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the video signal processing circuit converts the input video signal to a plurality of kinds of display formats as the mutually different display configurations.

20. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the timing circuit converts the input timing signal to a signal compatible with a display format as one of the mutually different display configurations.

21. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the timing circuit includes timing signal supply destination switching means for, upon reception of an external control signal, switching destinations to which the timing signal is to be supplied.

22. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the video signal processing circuit includes video signal supply destination switching means for, upon reception of an external control signal, switching destinations to which the video signal is to be supplied.

DI

SUPPLEMENTAL AMENDMENT

Page 9 of 43

23. (WITHDRAWN) The image display device as defined in claim 1, further comprising: detection means for detecting an environmental condition; and display configuration switching means for switching the display configurations according to

a signal from the detection means.

24. (WITHDRAWN) The image display device as defined in claim 1, further comprising: video kind identification means for identifying a kind of the input video signal; and display configuration switching means for switching the display configurations according to

a signal from the video kind identification means.

25. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

each of the parts and entireties of the drive circuit(s) has its own power supply terminal and input terminal.

26. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the parts and entiretics of the drive circuit(s) share a partially common power supply terminal and input terminal.

SUPPLEMENTAL AMENDMENT

Page 10 of 43

27. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

none of the parts and entireties of the drive circuit(s) is fed with electric power when not operating.

28. (WITHDRAWN) The image display device as defined in claim 1, further comprising: means for electrically isolating some of the parts and entireties of the drive circuit(s) that are not being involved in producing a display from the pixel array.

29. (WITHDRAWN) The image display device as defined in claim 1, wherein:

one of a plurality of display formats as the mutually different display configurations produces a relatively high quality display, whilst the other produces a relatively low quality display.

30. (WITHDRAWN) The image display device as defined in claim 1, wherein:

one of a plurality of display formats as the mutually different display configurations consumes relatively little power, whilst the other consumes a relatively great power.

SUPPLEMENTAL AMENDMENT

Page 11 of 43

31. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

one of the plurality of display formats produces a relatively high resolution, whilst the other produces a relatively low resolution.

32. (WITHDRAWN) The image display device as defined in claim 30,

wherein:

one of the plurality of display formats produces a relatively high resolution, whilst the other produces a relatively low resolution.

33. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

one of the plurality of display formats is a color display, whilst the other is a black-andwhite display.

34. (WITHDRAWN) The image display device as defined in claim 30,

wherein:

one of the plurality of display formats is a color display, whilst the other is a black-andwhite display.

SUPPLEMENTAL AMENDMENT

Page 12 of 43

35. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

a part or entirely of the data signal line drive circuit is provided in plurality; and at least one of the parts and entireties of the data signal line drive circuit writes identical image data to a plurality of data signal lines.

36. (WITIIDRAWN) The image display device as defined in claim 32,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and at least one of the parts and entireties of the data signal line drive circuit writes identical image data to a plurality of data signal lines.

37. (WITHDRAWN) The image display device as defined in claim 33,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and at least one of the parts and entiretics of the data signal line drive circuit writes identical image data to a plurality of data signal lines.

38. (WITHDRAWN) The image display device as defined in claim 34,

wherein:

a part or entircty of the data signal line drive circuit is provided in plurality; and

Applicant: Y. Kubota, et al.

U.S.S.N.: 09/851,885

SUPPLEMENTAL AMENDMENT

Page 13 of 43

at least one of the parts and entireties of the data signal line drive circuit writes identical

image data to a plurality of data signal lines.

39. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

at least one of the parts and entircties of the data signal line drive circuit writes identical

image data to data signal lines corresponding to some of the plurality of pixels of the same color,

those some pixels being horizontally adjacent to each other with or without an intervening pixel of

a different color.

40. (WITHDRAWN) The image display device as defined in claim 32,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

at least one of the parts and entireties of the data signal line drive circuit writes identical

image data to data signal lines corresponding to some of the plurality of pixels of the same color,

those some pixels being horizontally adjacent to each other with or without an intervening pixel of

a different color.

Applicant: Y. Kubota, et al.

U.S.S.N.: 09/851,885

SUPPLEMENTAL AMENDMENT

Page 14 of 43

41. (WITHDRAWN) The image display device as defined in claim 33,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

at least one of the parts and entireties of the data signal line drive circuit writes identical

image data to data signal lines corresponding to some of the plurality of pixels of the same color,

those some pixels being horizontally adjacent to each other with or without an intervening pixel of

a different color.

42. (WITHDRAWN) The image display device as defined in claim 34,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

at least one of the parts and entirctics of the data signal line drive circuit writes identical

image data to data signal lines corresponding to some of the plurality of pixels of the same color,

those some pixels being horizontally adjacent to each other with or without an intervening pixel of

a different color.

43. (WITHDRAWN) The image display device as defined in claim 33,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

SUPPLEMENTAL AMENDMENT

Page 15 of 43

at least one of the parts and entireties of the data signal line drive circuit writes identical image data to data signal lines corresponding to some of the plurality of pixels, those some pixels being horizontally adjacent to each other and of three different colors.

44. (WITHDRAWN) The image display device as defined in claim 34,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

at least one of the parts and entireties of the data signal line drive circuit writes identical image data to data signal lines corresponding to some of the plurality of pixels, those some pixels being horizontally adjacent to each other and of three different colors.

45. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at an identical timing;

and

the data signal line drive circuit outputs image data which is held by data signal lines in each scan period.



SUPPLEMENTAL AMENDMENT

Page 16 of 43

46. (WITHDRAWN) The image display device as defined in claim 32,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and

the data signal line drive circuit outputs image data which is held by data signal lines in

each scan period.

47. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and

the data signal line drive circuit outputs identical image data in each scan period.

48. (WITHDRAWN) The image display device as defined in claim 32,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and

the data signal line drive circuit outputs identical image data in each scan period.

SUPPLEMENTAL AMENDMENT

Page 17 of 43

49. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and the data signal line drive circuit outputs image data which is held by data signal lines in a

period including a plurality of scan periods.

50. (WITHDRAWN) The image display device as defined in claim 32,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and

the data signal line drive circuit outputs image data which is held by data signal lines in a

period including a plurality of scan periods.

51. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and

the data signal line drive circuit outputs image data representing an identical halflone, but

different polarities, in each scan period.



SUPPLEMENTAL AMENDMENT

Page 18 of 43

52. (WITHDRAWN) The image display device as defined in claim 32,

wherein:

in one of the plurality of display formats of a relatively low resolution,

a scan signal is written to a plurality of successive scan signal lines at different timings; and

the data signal line drive circuit outputs image data representing an identical halftone, but

different polarities, in each scan period.

53. (WITHDRAWN) The image display device as defined in claim 31,

wherein:

in one of the plurality of display formats of a relatively low resolution,

image data is written to data signal lines without changing a polarity thereof throughout one

frame period.

54. (WITHDRAWN) The image display device as defined in claim 32,

wherein:

in one of the plurality of display formats of a relatively low resolution,

image data is written to data signal lines without changing a polarity thereof throughout one

frame period.

SUPPLEMENTAL AMENDMENT

Page 19 of 43

55. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

one of the plurality of display formats displays a relatively great number of halftones, whilst the other displays a relatively small number of halftones.

56. (WITHDRAWN) The image display device as defined in claim 30,

wherein:

one of the plurality of display formats displays a relatively great number of halftones, whilst the other displays a relatively small number of halftones.

57. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

one of the plurality of display formats is compatible with a halflone display, whilst the other is compatible with a binary display.

58. (WITHDRAWN) The image display device as defined in claim 30,

wherein:

one of the plurality of display formats is compatible with a halftone display, whilst the other is compatible with a binary display.



SUPPLEMENTAL AMENDMENT

Page 20 of 43

59. (WITHDRAWN) The image display device as defined in claim 55,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

the parts and entireties of the data signal line drive circuit include a reference voltage selection circuit and an intermediate potential generation circuit,

wherein:

when relatively a few halftones are displayed, the reference voltage selection circuit operates, but the intermediate potential generation circuit does not operate; and

when relatively many halftones are displayed, both the reference voltage selection circuit and the intermediate potential generation circuit operate.

60. (WITHDRAWN) The image display device as defined in claim 56,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

the parts and entireties of the data signal line drive circuit include a reference voltage selection circuit and an intermediate potential generation circuit,

wherein:

when relatively a few halftones are displayed, the reference voltage selection circuit operates, but the intermediate potential generation circuit does not operate; and

when relatively many halftones are displayed, both the reference voltage selection circuit and the intermediate potential generation circuit operate.



SUPPLEMENTAL AMENDMENT

Page 21 of 43

61. (WITHDRAWN) The image display device as defined in claim 57,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

the parts and entireties of the data signal line drive circuit include a reference voltage selection circuit and an intermediate potential generation circuit,

wherein:

when relatively a few halftones are displayed, the reference voltage selection circuit operates, but the intermediate potential generation circuit does not operate; and

when relatively many halftones are displayed, both the reference voltage selection circuit and the intermediate potential generation circuit operate.

62. (WITHDRAWN) The image display device as defined in claim 58,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and

the parts and entireties of the data signal line drive circuit include a reference voltage selection circuit and an intermediate potential generation circuit,

wherein:

when relatively a few halftones are displayed, the reference voltage selection circuit operates, but the intermediate potential generation circuit does not operate; and



SUPPLEMENTAL AMENDMENT

Page 22 of 43

when relatively many halftones are displayed, both the reference voltage selection circuit and the intermediate potential generation circuit operate.

63. (WITHDRAWN) The image display device as defined in claim 55,

wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and the parts and entireties of the data signal line drive circuit include an amplifier circuit, wherein

when relatively a few halftones are displayed, the amplifier circuit does not operate; and when relatively many halftones are displayed, the amplifier circuit operates.

64. (WITHDRAWN) The image display device as defined in claim 56, wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and the parts and entiretics of the data signal line drive circuit include an amplifier circuit, wherein

when relatively a few halftones are displayed, the amplifier circuit does not operate; and when relatively many halftones are displayed, the amplifier circuit operates.



Applicant: Y. Kubota, et al. U.S.S.N.: 09/851,885 SUPPLEMENTAL AMENDMENT Page 23 of 43

65. (WITHDRAWN) The image display device as defined in claim 57, wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and the parts and entireties of the data signal line drive circuit include an amplifier circuit, wherein

when relatively a few halftones are displayed, the amplifier circuit does not operate; and when relatively many halftones are displayed, the amplifier circuit operates.

66. (WITHDRAWN) The image display device as defined in claim 58, wherein:

a part or entirety of the data signal line drive circuit is provided in plurality; and the parts and entireties of the data signal line drive circuit include an amplifier circuit, wherein

when relatively a few halftones are displayed, the amplifier circuit does not operate; and when relatively many halftones are displayed, the amplifier circuit operates.

67. (WITHDRAWN) The image display device as defined in claim 29, wherein:

the input video signal is analog in one of the plurality of display formats and digital in the other.

SUPPLEMEN'I'AL AMENDMENT

Page 24 of 43

68. (WITTIDRAWN) The image display device as defined in claim 30,

wherein:

the input video signal is analog in one of the plurality of display formats and digital in the other.

69. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

the input video signal carries image data in one of the plurality of display formats and text data in the other.

70. (WITHDRAWN) The image display device as defined in claim 30,

wherein:

the input video signal carries image data in one of the plurality of display formats and text data in the other.

71. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

the input video signal carries natural image data in one of the plurality of display formats and graphics data in the other.

SUPPLEMENTAL AMENDMENT

Page 25 of 43

72. (WITHDRAWN) The image display device as defined in claim 30,

wherein:

the input video signal carries natural image data in one of the plurality of display formats and graphics data in the other.

73. (WITHDRAWN) The image display device as defined in claim 29,

wherein:

one of a plurality of display modes as the mutually different display configurations is a transmission display mode, whilst the other is a reflection display mode.

74. (WITHDRAWN) The image display device as defined in claim 50,

wherein:

one of a plurality of display modes as the mutually different display configurations is a transmission display mode, whilst the other is a reflection display mode.

75. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

none of the parts and entireties of the drive circuit(s) writes image data in at least a part of a display area.



SUPPLEMENTAL AMENDMENT

Page 26 of 43

76. (WITHDRAWN) The image display device as defined in claim 75,

wherein:

none of the parts and entireties of the drive circuit(s) writes image data in a part of a display area by controlling outputs from the parts and entireties of the drive circuit(s) based on a signal that represents drive timings of the signal lines.

77. (WITHDRAWN) The image display device as defined in claim 75,

wherein:

none of the parts and entireties of the drive circuit(s) writes image data in a part of a display area by controlling outputs from the parts and entireties of the drive circuit(s) based on a reset signal causing the parts and entireties of the drive circuit(s) to stop scanning.

78. (WITHDRAWN) The image display device as defined in claim 75,

wherein:

none of the parts and entireties of the drive circuit(s) writes image data in a part of a display area by inputting a start signal from an intermediate stage of a scan circuit included in the parts and entireties of the drive circuit(s), the start signal causing the parts and entireties of the drive circuit(s) to start scanning.



SUPPLEMENTAL AMENDMENT

Page 27 of 43

79. (WITHDRAWN) The image display device as defined in claim 1,

wherein:

the parts and entireties of the drive circuit(s) are formed on the same substrate as are the pixels.

80. (WITHDRAWN) The image display device as defined in claim 79,

wherein:

the parts and entireties of the drive circuit(s) include a polycrystalline silicon thin transistor as an active element.

81. (WITIIDRAWN) The image display device as defined in claim 80,

wherein:

the active element is formed on a glass substrate by a process at or below 600 °C.

82. (WITHDRAWN) A data signal line drive circuit, comprising:

a reference voltage selection circuit; and

an intermediate potential generation circuit,

wherein:

when relatively a few halftones are displayed, the reference voltage selection circuit operates, but the intermediate potential generation circuit does not operate; and



SUPPLEMENTAL AMENDMENT

Page 28 of 43

when relatively many halftones are displayed, both the reference voltage selection circuit and the intermediate potential generation circuit operate.

83. (WITHDRAWN) The data signal line drive circuit as defined in claim 82, further comprising an amplifier circuit,

wherein:

wherein:

when relatively a few halftones are displayed, the amplifier circuit does not operate; and when relatively many halftones are displayed, the amplifier circuit operates.

84. (WITHDRAWN) An image display device including a data signal line drive circuit, the data signal line drive circuit comprising: a reference voltage selection circuit; and an intermediate potential generation circuit,

when relatively a few halftones are displayed, the reference voltage selection circuit operates, but the intermediate potential generation circuit does not operate; and

when relatively many halflones are displayed, both the reference voltage selection circuit and the intermediate potential generation circuit operate.

85. (WITHDRAWN) A drive circuit, comprising:
a scan circuit including n stages, where n is an integral greater than 1;



SUPPLEMENTAL AMENDMENT

Page 29 of 43

a first control switching means for controlling an input of a start signal to a first stage of the scan circuit:

a second control switching means provided between mth and (m+1)th stages of the sean circuit, where m is a positive integral not exceeding n; and

a third control switching means for controlling an input of a start signal to the (m+1)th stage.

wherein:

the first control signal controls the first control switching means and the second control switching means; and

the second control signal controls the third control switching means.

86. (WITHDRAWN) An image display device including a drive circuit, the drive circuit comprising:

a scan circuit including n stages, where n is an integral greater than 1;

a first control switching means for controlling an input of a start signal to a first stage of the scan circuit;

a second control switching means provided between 111th and (111+1)th stages of the scan circuit, where m is a positive integral not exceeding n; and

a third control switching means for controlling an input of a start signal to the (m+1)th stage.



SUPPLEMENTAL AMENDMENT

Page 30 of 43

wherein:

the first control signal controls the first control switching means and the second control switching means; and

the second control signal controls the third control switching means.

87. (WITHDRAWN) An electronic apparatus including an image display device as an output device,

the image display device comprising:

a pixel array constituted by a plurality of pixels for displaying an image;

a data signal line drive circuit for supplying a video signal to the pixel array;

a scan signal line drive circuit for controlling writing of the video signal to the plurality of pixels;

a timing circuit for supplying a timing signal to the data signal line drive circuit and the scan signal line drive circuit; and

a video signal processing circuit for supplying the video signal to the data signal line drive circuit,

wherein:

a part or entirety of either or both of the data signal line drive circuit and the scan signal line drive circuit is provided in plurality so as to realize mutually different display configurations.



SUPPLEMENTAL AMENDMENT

Page 31 of 43

88. (WITHDRAWN) The electronic apparatus as defined in claim 87,

wherein:

the electronic apparatus switches between display modes or display formats according to whether the electronic apparatus is driven by an external power source or by an internal battery.

89. (WITHDRAWN) The electronic apparatus as defined in claim 87,

wherein:

the electronic apparatus switches between display modes or display formats according to whether the electronic apparatus is standing by or is operating.

90. (WITHDRAWN) The electronic apparatus as defined in claim 87,

wherein:

the electronic apparatus switches between display modes or display formats according to ambient brightness when used.

91. (WITHDRAWN) An image display device, comprising:

a plurality of pixels arranged in a matrix form;

a plurality of data signal lines arranged to match with columns of the plurality of pixels and a plurality of scan signal lines arranged to match with rows of the plurality of pixels;



SUPPLEMENTAL AMENDMENT

Page 32 of 43

a display section in which the plurality of pixels are fed with data for an image display from the plurality of data signal lines in synchronism with a scan signal supplied from the plurality of scan signal lines;

a plurality of data signal line drive circuits, connected to the same data signal lines, for outputting a video signal to the plurality of data signal lines in synchronism with a predetermined timing signal; and

a scan signal line drive circuit for outputting the scan signal to the plurality of scan signal lines in synchronism with a predetermined timing signal,

wherein:

at least one of the plurality of data signal line drive circuits is a binary data signal line drive circuit including:

a shift register section operating at a predetermined timing;

a data holding section for sampling and holding a separately inputted binary data signal according to an output of the shift register section;

a data switching section for switching binary data potentials, i.e., a for-turn-on potential and a for-non-turn-on potential, according to the binary data signal being held; and

an output control section, provided between an output of the data switching section and the plurality of data signal lines, for controlling an output of the data switching section based on an externally inputted transfer instruction signal.



SUPPLEMENTAL AMENDMENT

Page 33 of 43

92. (WITHDRAWN) The image display device as defined in claim 91,

wherein:

in at least one of the plurality of data signal line drive circuits, outputs to the plurality of data signal lines are coupled to the plurality of data signal lines.

93. (WITHDRAWN) The image display device as defined in claim 91,

wherein:

the plurality of data signal line drive circuits each provide an output to the plurality of data signal lines at a different timing from the others.

94. (WITHDRAWN) The image display device as defined in claim 91,

wherein:

the transfer instruction signal is turned active in a horizontal blanking period; and either the for-turn-on potential or the for-non-turn-on potential is supplied simultaneously.

95. (WITHDRAWN) The image display device as defined in claim 91,

wherein:

one or more of the plurality of data signal line drive circuits to which display data is not being supplied stop being driven.



SUPPLEMENTAL AMENDMENT

Page 34 of 43

96. (WITHDRAWN) The image display device as defined in claim 91,

wherein:

at least one of the plurality of data signal line drive circuits includes a level shifter in a timing signal input section of the shift register section and in a binary data signal input section of the data holding section; and

the data holding section samples and subsequently holds the binary data signal according to an output of the shift register section based on a timing signal voltage-boosted by the level shifters.

97. (WITHDRAWN) The image display device as defined in claim 96,

wherein:

the level shifters operate only when an output signal of the shift register section is active.

98. (WITHDRAWN) The image display device as defined in claim 96,

wherein:

the level shifters are of a current drive type.

99. (WITHDRAWN) The image display device as defined in claim 96,

wherein:

the level shifters include an input switching element for switching ON and OFF of operation; and



SUPPLEMENTAL AMENDMENT

Page 35 of 43

the level shifters stop operating as the input switching element receives a signal having a sufficient level to cause the input switching element to cut off.

100. (WITHDRAWN) The image display device as defined in claim 96,

wherein:

the level shifters stop operating as power supply thereto is stopped.

101. (WITHDRAWN) The image display device as defined in claim 96,

wherein:

the level shifters include:

a transistor receiving the binary data signal; and

an input control section for isolating a gate capacitance of the transistor from a transmission line of the binary data signal.

102. (WITHDRAWN) The image display device as defined in claim 98,

wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are made of polycrystalline silicon thin film transistors.

SUPPLEMENTAL AMENDMENT

Page 36 of 43

103. (WITHDRAWN) The image display device as defined in claim 99,

wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are made of polycrystalline silicon thin film transistors.

104. (WITHDRAWN) The image display device as defined in claim 100,

wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are made of polycrystalline silicon thin film transistors.

105. (WITHDRAWN) The image display device as defined in claim 101,

wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are

106. (WITHDRAWN) The image display device as defined in claim 98,

wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are manufactured at a process temperature equal to or below 600 °C.



SUPPLEMENTAL AMENDMENT

Page 37 of 43

107. (WITHDRAWN) The image display device as defined in claim 99,

wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are manufactured at a process temperature equal to or below 600 °C.

108. (WITHDRAWN) The image display device as defined in claim 100, wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are manufactured at a process temperature equal to or below 600 °C.

109. (WITHDRAWN) The image display device as defined in claim 101, wherein:

switching elements constituting the plurality of data signal line drive circuits, scan signal line drive circuits, and pixels are manufactured at a process temperature equal to or below 600 °C.

110. (WITHDRAWN) The image display device as defined in claim 91, further comprising:

a binary data potential stabilizer section for restricting variations in potential of the binary data potential when the transfer instruction signal is inputted to the binary data signal line drive circuit.

Applicant: Y. Kubota, et al.

U.S.S.N.: 09/851,885

SUPPLEMENTAL AMENDMENT

Page 38 of 43

111. (WITHDRAWN) The image display device as defined in claim 110,

wherein:

the binary data potential stabilizer section includes:

an electric charge holding section for receiving and holding electric charges from a binary data potential supply line supplying the binary data potential to the binary data signal line drive circuit; and

a current control section for determining, according to a resistance value, a quantity of electric charges which is held by the electric charge holding section.

112. (WITHDRAWN) The image display device as defined in claim 110,

wherein:

the binary data potential stabilizer section includes:

an electric charge holding section for receiving and holding electric charges from a binary data potential supply line supplying the binary data potential to the binary data signal line drive circuit; and

a frequency control section for determining a quantity of electric charges which is inputted to and held by the electric charge holding section while reversing polarities for every horizontal scan period, by having a cut off frequency greater than a frequency of one horizontal scan period of a screen display.

Applicant: Y. Kubota, et al.

U.S.S.N.: 09/851,885

SUPPLEMENTAL AMENDMENT

Page 39 of 43

113. (WITHDRAWN) The image display device as defined in claim 110,

wherein:

the electric charge holding section has a capacitance to hold electric charges that is greater

than at least a total capacitance of the plurality of data signal lines.

114. (WITHDRAWN) The image display device as defined in claim 110,

wherein:

the current control section and the electric charge holding section each exhibit a time

constant that has such a value that stabilizes the binary data potential at a sufficient value within a

period during which a display is produced by the display section based on a video signal supplied

from the plurality of data signal line drive circuits other than the binary data signal line drive circuit.

115. (WITHDRAWN) The image display device as defined in claim 91,

wherein:

in a horizontal blanking period and when the transfer instruction signal is turned off, the

binary data signal line drive circuit precharges the plurality of data signal lines to a potential having

an intermediate value between a potential of the plurality of data signal lines representing data in a

horizontal effective period and a potential of the plurality of data signal lines representing data in a

subsequent horizontal effective period in the plurality of data signal line drive circuits other than the

binary data signal line drive circuit.

SUPPLEMENTAL AMENDMENT

Page 40 of 43

116. (WITHDRAWN) The image display device as defined in claim 115,

wherein:

the binary data signal line drive circuit supplies a difference between the binary data potential and a predetermined reference potential to the plurality of data signal lines as image data; and

the precharge potential is set to a value equal to the reference potential.

117. (CURRENTLY AMENDED) An image display device, comprising:

a pixel array constituted by a plurality of pixels for displaying an image;

a data signal line drive circuit for supplying a video signal to the pixel array;

a scan signal line drive circuit for controlling writing of the video signal to the plurality of pixels;

a timing circuit for supplying a timing signal to the data signal line drive circuit and the scan signal line drive circuit;

a video signal processing circuit for supplying the video signal to the data signal line drive circuit,

wherein one of the data signal line drive circuit and the scan line drive circuit is configured and arranged so as to include a plurality of drive circuit portions for one data signal line; and

wherein each of the plurality of drive circuit portions are configured and arranged so each drive circuit realizes a display configuration that is different each of the other of the plurality drive circuit portions.



SUPPLEMENTAL AMENDMENT

Page 41 of 43

118. (PREVIOUSLY PRESENTED) The image display device as defined in claim 117, wherein only one of the plurality of drive circuit portions operates at any given time.

119. (PREVIOUSLY PRESENTED) The image display device as defined in claim 117, wherein:

the plurality of drive circuit portions are provided for the data signal line drive circuit; and at least one of the plurality of drive circuit portions writes image data overlapping an image written by another of the plurality of drive circuit portions in one frame period.

120. (PREVIOUSLY PRESENTED) The image display device as defined in claim 117, wherein each of the plurality of drive circuit portions operate simultaneously.

121. (PREVIOUSLY PRESENTED) The image display device as defined in claim 117, wherein the plurality of drive circuit portions are located opposing one another across the pixel array.